

Household and community behavior at Bronze Age Politiko-Troullia, Cyprus

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We investigate intrasite patterns of artifacts and floral and faunal data to interpret household and community behavior at the Middle Cypriot (Bronze Age) village of Politiko-Troullia in the foothills of the Troodos Mountains, Cyprus. Floral evidence indicates cultivation of orchard crops (e.g., olive and grape), as well as the persistence of woodlands that provided wood for fuel. Animal management combined herding of domesticated sheep, goat, pig, and cattle with the hunting of Mesopotamian fallow deer. Metallurgical evidence points to the production of utilitarian copper tools in household workshops. Group activities are reflected by the deposition of anthropomorphic figurines, spinning and weaving equipment, and deer bones in an open courtyard setting. In sum, Politiko-Troullia exemplifies a diversified agrarian economy on a distinctly anthropogenic landscape that fostered the development of household and supra-household social differentiation in pre-urban Bronze Age Cyprus.

Keywords: diversified agrarian ecology and economy, Bronze Age Cyprus, households, metallurgy, Politiko-Troullia, intrasite spatial patterns

Introduction

Ancient island societies are characterized as isolated but, paradoxically, particularly exposed to interaction (Rainbird 2007; Knapp 2008), especially via maritime trade. Accordingly, it is assumed that Bronze Age Cyprus was influenced from afar, and yet its agrarian economy and landscape formation may have followed paths distinct from those on the mainland (Held 1993; McGlade 1995; McIntosh *et al.* 2000; Robb 2007). Amid a variety of complex Mediterranean societies (Broodbank 2000), Cypriot Bronze Age society witnessed the intensified production of secondary goods and the emergence of urban markets and international exchange (Karageorghis 1982; Steel 2004a: 125–139; Knapp 2008: 74–82). Given the importance of copper metallurgy on Cyprus (Knapp 2003) and the relatively late urbanization on the island (ca. 1450 B.C.) (Rupp 1993; Peltenburg 1996), the social and economic characteristics of Bronze Age society are intriguingly different from those of neighboring mainland regions (in terms of timing, scale, and geographic patterns), contributing to the characteristic diversity of ancient Mediterranean agricultural and social landscapes (Fall 1990; Fall *et al.* 1998; Butzer 1996; Rackham and Moody 1996; Cherry and Davis 2001; Bintliff 2002; Butzer and Harris 2007; Falconer and Fall 2009).

Bronze Age Society on Cyprus

To investigate the independent path pursued by Bronze Age Cypriot communities, we explore here agrarian economy and ecology prior to the advent of towns on the island, at a time when neighboring regions were in the throes of dramatic urban rise and collapse. Our perspective emphasizes the interactive components of agricultural ecosystems (e.g., Butzer 1996), allowing us to integrate evidence of crop management, animal hunting and husbandry, metallurgy, and household and communal activities into a picture of Bronze Age life and landscape in the heart of Cyprus. We focus our investigations on the settlement of Politiko-Troullia (FIG. 1), as it exemplifies agricultural economy and landscape formation while pre-urban Cyprus experienced a suite of transitions towards a complex urbanized society (FIG. 2). The Cypriot Chalcolithic period featured largely self-sufficient rural communities without central places (Held 1993; Knapp 2008). Cypriot society may have incorporated mechanisms to resist the growth of social inequality, and to maintain village and household autonomy (Peltenburg 1993). The subsequent Philia “facies” or “phase” is marked by distinctive ceramics, primarily from mortuary sites; stratigraphic evidence from Marki-Alonia (Webb and Frankel 1999: 37–38) and tomb assemblages from Sotira-Kaminoudhia (Swiny *et al.* 2003: 103–144) support the interpretation of the Philia Phase as intermediate, but partially overlapping, the preceding Late Chalcolithic and ensuing Early

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Figure 1 Map showing the location of Politiko-Troullia in the foothills of the Troodos Mountains, the modern capital of Nicosia, Iron Age Tamassos, and selected Bronze Age settlements on Cyprus.

Cypriot I–II periods (Knapp 2008: 71–72). The Early and Middle Bronze Ages (also known as Early and Middle Cypriot periods or the “Prehistoric Bronze Age”) (Knapp 2008: table 1) featured village-level communities that experienced widespread changes from the previous period in architecture, household patterns, and material culture (Knapp 2008: 68–87). Early and Middle Cypriot agricultural intensification included the management of animals for secondary products, the introduction of cattle-plow farming, and heightened copper exploitation (Knapp 1990, 2008). The culture history of the pre-urban Bronze Age on Cyprus derives largely from mortuary assemblages (many excavated in the early 20th century).

Period	Date B.C.	Chronological scheme
Late Cypriot III	1200–1050	Protohistoric Bronze Age
Late Cypriot II	1450–1200	
Late Cypriot I	1600–1450	
Middle Cypriot III	1700–1600	
Middle Cypriot II	1800–1700	Prehistoric Bronze Age 2
Middle Cypriot I	1900–1800	
Early Cypriot III	2000–1900	
Early Cypriot II	2200–2000	Prehistoric Bronze Age 1
Early Cypriot I	2400–2200	
Philia	2500–2400	
Chalcolithic	3800–2500	Early Prehistoric

Figure 2 Chalcolithic through the Bronze Age chronology, Cyprus (modified from Peltenburg 1989; Given and Knapp 2003; Knapp 2008: tables 1 and 3).

Early/Middle Cypriot domestic evidence stems primarily from relatively few communities excavated more recently, most notably among them: Sotira-Kaminoudhia (Swiny *et al.* 2003), Alambra-Mouttes (Coleman *et al.* 1996), and Marki-Alonia (Frankel and Webb 1996, 2006a).

As the first interval in the subsequent Protohistoric Bronze Age, the Middle Cypriot III and Late Cypriot I periods are recognized jointly as a transitional interval prior to the urbanization and international mercantilism of Late Cypriot II and III (Catling 1973; Knapp 2008). Protohistoric Bronze Age society experienced significant population growth and the development of settlement hierarchies with coastal centers (e.g., Enkomi, Kition) engaged in trade throughout the Eastern Mediterranean (Merrillees 1982; Manning 1993; Keswani 1996; Peltenburg 1996; Knapp 1997a, 1997b). Cyprus probably should be equated with the polity known as *Alashiya* in Egypt’s Amarna Letters and other texts (Malbran-Labat 1999; Knapp 2008: 300–324), reflecting the emergence of Cypriot towns on the larger stage of Eastern Mediterranean politics and commerce in the late 2nd millennium B.C.

Politiko-Troullia, in the center of Cyprus, illuminates Bronze Age agrarian society and economy, allowing us to consider the larger issue of how a distinctly pre-urban, modestly differentiated society

may have been configured prior to the dramatic development of formal polities. The evidence from Politiko-*Troullia* portrays a settlement of constituent households engaged particularly in arboriculture, mixed animal hunting and husbandry, and copper metallurgy, amid an increasingly anthropogenic landscape of interacting, but seemingly autonomous Bronze Age communities. Economic change around the Mediterranean at this time was influenced by the Secondary Products Revolution (Sherratt 1981; Greenfield 2010), which stemmed commonly from population growth (Boserup 1965, 1981; Kirch 2006) or market exchange (Stone 2001), but neither of these conditions is manifested clearly in Early or Middle Bronze Age Cyprus (Knapp 2008). On Cyprus, the Secondary Products Revolution was marked by the advent of plow technology, the reintroduction of domestic cattle, and intensified production of copper, possibly providing the basis for emergent social elites (Manning 1993). In this technological and economic context, Cypriot agrarian villages may have produced commodities for subsistence and for communal activities that created and sustained social relations (Spielmann 2002) and provided “social dividends” to households (Stone 2001), thereby potentially encouraging differential accumulation of wealth or status. This social differentiation was expressed in the Early and Middle Cypriot periods primarily in burials and mortuary evidence (Keswani 2005), but had its basis in domestic household and supra-household production. Village-level economy and community behavior, therefore, linked individuals and wider society (Wilk and Rathje 1982; Forbes 2008; Souvatzis 2008). Thus, village and household level analysis offers a window into Cyprus’ Early and Middle Cypriot pre-urban society as a prelude to the towns and social complexity of the Late Cypriot Period.

Research Setting: Politiko-*Troullia*

Several factors make Politiko-*Troullia* a logical focal point for the study of Bronze Age agrarian ecology, economy, and society on Cyprus. The settlement enjoyed an economically strategic location, not because of its defensibility or proximity to trade routes, but by virtue of its access to agricultural and mineral resources. Politiko-*Troullia* lies at the interface of the fertile Mesaoria Plain to the north and the copper-bearing Troodos Mountains foothills to the southwest. Village remains lie buried within an alluvial terrace perched above the Pediaios River to the east and Kamaras Creek to the west (FIG. 3). Springs less than 1 km to the south still feed Kamaras Creek, and would have provided perennial water along the settlement’s western edge. The hills just beyond these springs offer several large eroded



Figure 3 Photo showing the locality of Politiko-*Troullia*, facing northeast, with Nicosia situated on the Mesaoria Plain in the distant background. Kamaras Creek flows right to left in a ravine in the foreground. Politiko-*Troullia* lies buried in fields to the east of Kamaras Creek. Politiko-*Troullia* West excavation areas are situated at lower right. Politiko-*Troullia* East excavations are backfilled to the right of the crossroads at the center right of the photo. The Politiko-*Lampertis* hill (location of Bronze Age tombs) rises above the olive trees at Politiko-*Troullia*.

exposures of the Troodos ophiolite, the massive sulfides uplifted from the earth’s mantle that offer some of the highest quality copper in the world (Sinclair 1995; Singer 1995). Many ore samples excavated at Politiko-*Troullia* come from the oxidized upper zone, called a “gossan” or “red hat” by miners (Sorrel 1973). These ores would have been accessible via shallow pit mining, and were easier to smelt than sulfides. Readily available copper ore, in association with iron-rich cherts and jasper, as well as red and yellow ochre (Sinclair 1995), would have provided prehistoric miners a bountiful range of useful minerals within a few kilometers.

Material culture (primarily potsherds, ground stone, and ceramic roof tiles) are spread over ca. 20 ha from the agricultural terraces overlooking the Pediaios River, along the northern slopes of Politiko-*Koloiokremmos* hill to the southern foot of Politiko-*Lampertis* hill, and west to the fields of Politiko-*Troullia* along the Kamaras. Concentrated domestic refuse, especially Red Polished Ware ceramics and ground stone, plus clear signatures of buried architecture revealed by soil resistivity survey, indicate a Bronze Age settlement covering about 2 ha (*Troullia* West and *Troullia* East) (Falconer *et al.* 2005). Widespread surface ceramics associated with extensive agricultural terracing on the slopes of Politiko-*Koloiokremmos* suggest intensive pre-modern management of the local agricultural landscape (Fall *et al.* 2012).

Excavation of Politiko-*Troullia* East (FIG. 4: Areas A–G and L) revealed a room block with stone walls founded on or cut into soft siltstone bedrock (FIG. 5). Rooms 1 and 2 in the southern and western portions of Areas A–G represent interior spaces that probably

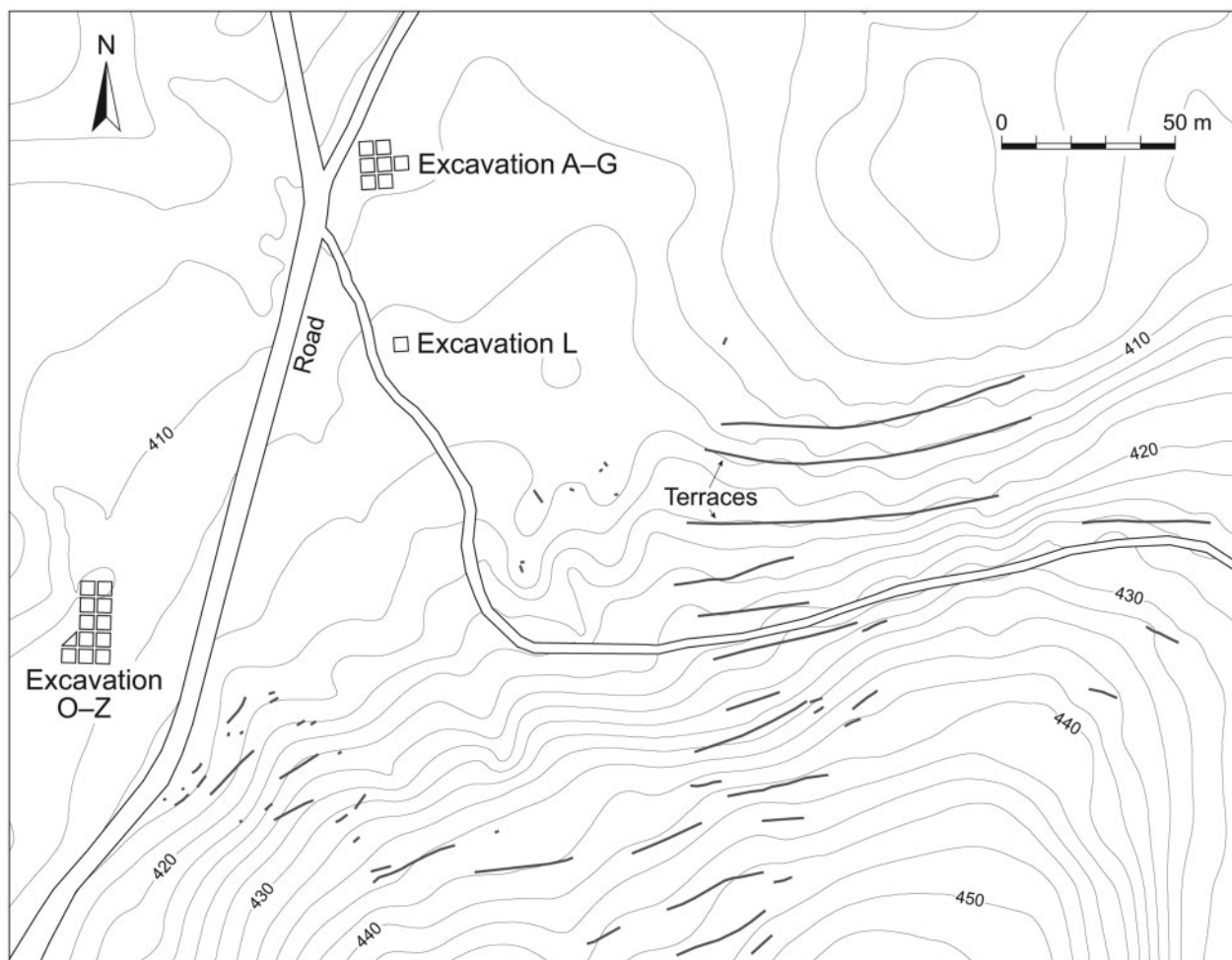


Figure 4 Topographic map of Politiko-Troullia showing excavation areas and agricultural terraces on Politiko-Koloikremmos (elevations in masl).

were roofed, as suggested by their relatively modest widths (4 m or less), a complete floor plan from Room 1 with a central posthole (with a fitted limestone slab to support an upright timber), and an in situ door socket and storage bin (Room 3) adjacent to the front door (FIG. 6). Roofed rooms



Figure 5 Photo showing Bronze Age architecture exposed in Areas A-G at Politiko-Troullia East; facing southeast. Room 1 and storage area 3 are in mid-ground; exterior workspace 6 is most distant.

very rarely exceed 4.5 m in width at other Early/Middle Cypriot settlements (Coleman *et al.* 1996: fig. 14; Swiny *et al.* 2003: figs. 2.16–2.18; Frankel and Webb 2006a: figs. 11.1–11.8), and an ethnoarchaeological study of traditional houses in one abandoned Cypriot village documented room widths of only 3–3.5 m (Swiny *et al.* 2003: 58). To the north and northeast of these rooms lie the remains of small outbuildings and open space. The southeastern portion of Areas A–G (FIG. 6: 6) is bounded by walls on the west and south and incorporates a slab-footed posthole, suggesting a roofed exterior workspace (see below). The space outside Rooms 1 and 2 in the southwestern corner of these excavations (FIG. 6: 7) produced no material culture, suggesting an absence of immediately adjacent buildings and the general interpretation of the architecture in Politiko-Troullia East as a discrete compound, possibly segregated spatially from other structures in the Bronze Age settlement (Fall *et al.* 2008).

The architecture in Politiko-Troullia West (FIG. 4: Areas O–Z) incorporates two courtyards surrounded by partially exposed rooms on the north, west, and east (FIG. 7) (Falconer *et al.* 2012). The northern

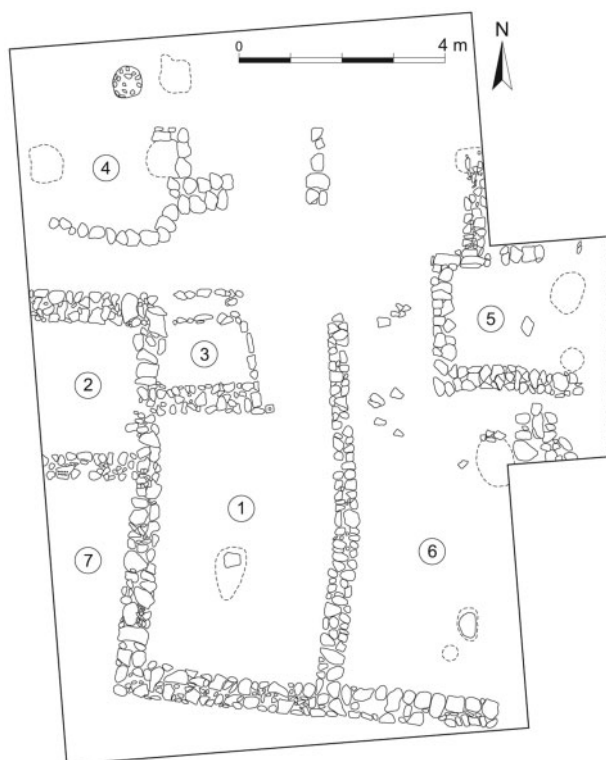


Figure 6 Plan view of Bronze Age stone architecture in Areas A–G at Politiko-Troullia East. Solid lines indicate stones; dashed lines show postholes and a possible furnace at the northeastern corner of workspace 6.

courtyard was entered from the north, while the southern courtyard had an entrance located at different times in its southern wall or southwestern corner (FIG. 8). At the sites of Sotira-Kaminoudhia and Marki-Alonia, spaces with widths of 6 m or greater are interpreted as exteriors or “courtyards” (Swiny *et al.* 2003: 58; Frankel and Webb 2006a: figs. 11.1–11.8). With these counterpoints in mind, the relatively large sizes of the Politiko-Troullia courtyards make them unlikely candidates for complete roofing, although the southern example features a large posthole, suggesting support for a partial cover over exterior space like that of the Politiko-Troullia East workspace (Ionas 1988). The northern courtyard produced four intriguing fragments of wall plaster carved with herringbone and scrolled motifs, suggesting that decorated exterior walls framed this space. The Politiko-Troullia West excavations exposed portions of three rooms (FIG. 8: 10–12), the western portions of which have eroded into the ravine of Kamaras Creek. Parallel east–west walls lie to the south, framing a 2-m wide alley that slopes down to the west, leading toward the stream level of Kamaras Creek, presumably a major water source for the Bronze Age inhabitants. Alley deposition is marked by thin, materially rich stratified deposits apparently resulting from incremental build-up of community trash. Recovery of only modest amounts of material culture in the southernmost space beyond the alley



Figure 7 Photo of Bronze Age architecture exposed in Areas O–Z at Politiko-Troullia West at the end of the 2008 excavation season; facing north. The alley is in the foreground, the southern courtyard is in mid-ground, and the northern courtyard is in the background. Note modified bedrock on the east side of the southern courtyard.

(FIG. 8: 14) suggests that the southern alley wall may delineate an architectural boundary, much as the southern and southwestern walls in Politiko-Troullia East bound the compound there.

The stratified evidence summarized above documents at least four phases of occupation incorporated in more than 3 m of stratified sediments and associated architecture in Politiko-Troullia West (Falconer *et al.* 2012). Our excavations have exposed about 400 sq m of the village site (a 2% excavated sample). Soil resistivity survey suggests four to five concentrations of buried architecture, possibly separated by open spaces (Falconer *et al.* 2005, 2012). Thus, while unexcavated portions of the site may contain additional patterns of deposition, our excavated sample represents the most readily identifiable and best-preserved portions of the settlement. This study evaluates intrasite patterns from the latest occupation at Politiko-Troullia, which is constituted by the remains in Politiko-Troullia East and the latest architecture of Politiko-Troullia West, in which minor remodeling shifted the southern courtyard wall and relocated its southern entrance.

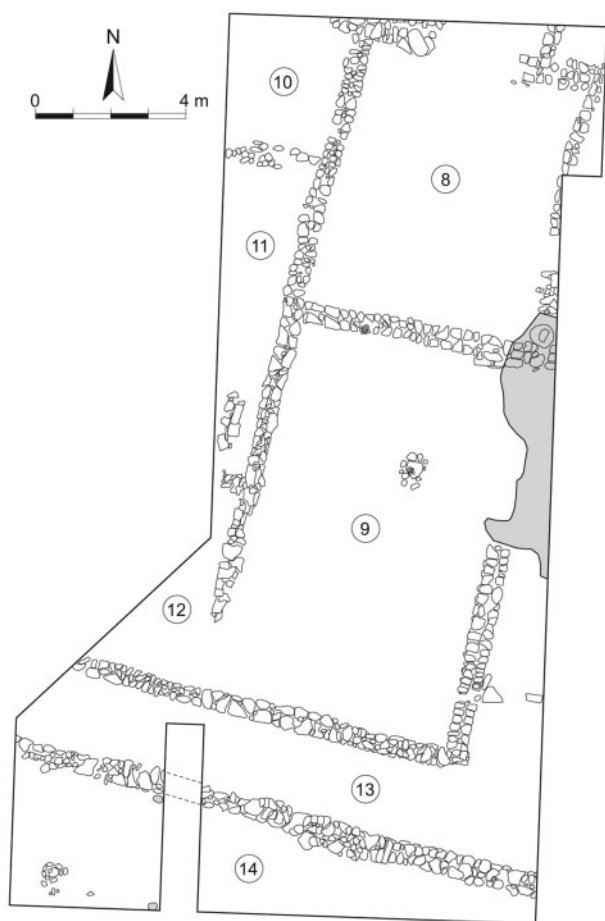


Figure 8 Plan view of Bronze Age stone architecture in Areas O–Z at Politiko-Troullia West at the end of the 2009 excavation season. The alley (13), southern courtyard (9), and northern courtyard (8) are major enclosed spaces shown in Figure 7. The shaded area indicates exposed bedrock cut back to accommodate the southern courtyard. A posthole with sunken gaming stone serves as the post support in the southern courtyard.

The occupational span for Politiko-Troullia may be estimated using Cypriot ceramic chronology. Analyses of prehistoric Cypriot pottery commonly utilize the concept of ceramic “wares” whose definitions subsume a variety of attributes, including clay fabric, non-clay inclusions, burnish, slip and painted decoration (e.g., Frankel and Webb 1994, 1996, 2006a, 2012; Coleman *et al.* 1996: 237–242). The ceramic assemblage is dominated by Red Polished II and III wares, which are found in Early Cypriot II through Middle Cypriot III contexts elsewhere on Cyprus (Åström 1972a; Coleman *et al.* 1996; Frankel and Webb 2006a). Additional wares, represented in smaller numbers, including Red Polished IV, White

Painted III–IV, Black Polished, and Red Slip wares, also suggest Middle Cypriot occupation (see Åström 1972a, 1972b). Four AMS radiocarbon determinations from Politiko-Troullia calibrate to the Early Cypriot II–Middle Cypriot I periods during the Prehistoric Bronze Age of Cyprus (TABLE 1). The overlapping 95% confidence intervals for these four dates suggest that the latter portion of the settlement’s occupation spanned a century or two in the late 3rd/early 2nd millennium B.C.

Results from Politiko-Troullia

The recovery and analysis of material evidence from Politiko-Troullia reveal several facets of intrasite patterning that guide our interpretations of Bronze Age economy and society. Field excavations were conducted in 4 × 4 m areas separated by one-meter baulks, which were removed periodically to create broadened exposures (FIGS. 5–8). All excavated sediments were dry-sieved through 1 × 1 cm mesh, facilitating the recovery of smaller sherds, bone fragments, and other artifacts (Fall *et al.* 2008; Falconer *et al.* 2012). Because depositional patterns and the behaviors that create them often are framed architecturally (Schiffer 1972: 161; Rapoport 1990; Hardy-Smith and Edwards 2004; Goring-Morris and Belfer-Cohen 2008; Findlayson *et al.* 2011), we investigated spatial patterning in a variety of architectural settings. The evidence from Politiko-Troullia East reveals clear distinctions between two settings: the room interiors (FIG. 6: 1–3) versus the outbuildings and exterior workspace (FIG. 6: 4–6). Our analysis of Politiko-Troullia West compares data from five settings: the northern courtyard (FIG. 8: 8), the southern courtyard (FIG. 8: 9), the partially exposed rooms to their west (FIG. 8: 10–12), the alleyway (FIG. 8: 13), and the area south of the alley (FIG. 8: 14).

Evidence of agriculture

Water flotation of sediment from a variety of excavated contexts at Politiko-Troullia produced carbonized botanical remains, including substantial amounts of wood charcoal. All sediments showing evidence of charred organic content were sampled and analyzed for botanical remains using manual, non-mechanized flotation procedures (Klinge and Fall 2010). The major plant taxa represented in the Troullia assemblage are olive (*Olea europaea*), grape (*Vitis vinifera*), fig (*Ficus carica*), and pistachio (*Pistacia* sp.). Less abundant seeds include

Table 1 AMS determinations from Politiko-Troullia.

Lab. No.	Locus	Phase	Material	$\delta^{13}\text{C}$ (‰)	^{14}C age yr B.P.	Calibrated age B.C. 95%*
AA-94182	B.013.56	E1	<i>Pinus</i> charcoal	–22.2	3600 ± 37	2121–1831
AA-94183	W.006.67	W1	<i>Olea</i> seed	–21.8	3665 ± 38	2191–1940
AA-94184	W.008.76	W2	<i>Olea</i> seed	–21.4	3630 ± 38	2132–1893
AA-94185	X.016.95	W2	<i>Olea</i> seed	–24.2	3688 ± 38	2198–1959

*95.4%; OxCal 4.1.

wheat (*Triticum*) and barley (*Hordeum*), as well as several wild taxa (e.g., Asteraceae, *Galium* and wild legumes).

These botanical remains reveal fundamental spatial distinctions between Politiko-Troullia East (interior and exterior combined) and three settings in Politiko-Troullia West (TABLE 2). The majority of carbonized seeds were recovered from the Politiko-Troullia West alley, creating an assemblage consisting of 82% orchard species, with the site's highest values by far for seed density (seed count per kl of processed sediment) and the ratio of seeds to charcoal (seed count per g of charcoal). In contrast, the southern courtyard and the exterior space south of the alley produced virtually no seeds. Politiko-Troullia East, on the other hand, generated a modest collection of largely wild seeds, but substantial amounts of wood charcoal leading to the highest charcoal density and lowest seed to charcoal ratio found at the site.

In addition to revealing an abundance of mineral resources, wide-ranging reconnaissance across the Politiko-Troullia locality identified a pattern of intensive terracing in Politiko-Troullia's immediate hinterland, especially on the adjacent hill of Politiko-Koloikremmos (FIG. 4). Longer terrace walls retain sediment in small arable plots, while shorter walls with less sediment, especially those directly overlooking the settlement, primarily restrain hill slope erosion. Previous accounts of Cypriot field systems (Wagstaff 1992; Deckers 2003; Noller and Wells

2003) describe post-Bronze Age terraces. A survey around Sotira-Kaminoudhia, for example, found numerous local terraces associated with abundant Hellenistic and later ceramics (Held 2003), accompanied by little evidence of prehistoric or protohistoric pottery (Middle and Late Cypriot sherds were notably absent). In contrast, the terraces of Politiko-Koloikremmos lie amid a carpet of potsherds and medieval roof tiles. Unlike those on other nearby hills, many of the terrace walls on Koloikremmos are chinked with tile fragments and Bronze Age sherds. Extensive potsherd distribution on these slopes adjacent to Politiko-Troullia suggests significant land use during the prehistoric Bronze Age (possibly in association with terrace walls) and the Iron Age (Fall *et al.* 2012).

Evidence for animal husbandry

The excavated bone evidence from Troullia indicates animal husbandry emphasizing domesticated sheep (*Ovis aries*) and goat (*Capra hircus*), coupled with hunting of Mesopotamian fallow deer (*Dama mesopotamica*) (TABLE 3). These data are presented as NISP (numbers of identified specimens) as the best means to quantify the excavated animal bone assemblage (O'Connor 2000: 55). Data quantified as NISP are suited better than other measures (e.g., MNI) for estimating relative frequencies of animal taxa across time or space (Grayson 1984: 94-96; Crabtree 1990: 159-160; Reitz and Wing 2008: 202-210). Most strikingly, the data reveal a dramatic

Table 2 Seed counts and charcoal densities comparing Politiko-Troullia (P-T) East with spatial patterning in Politiko-Troullia West.

	P-T East		P-T West	
	Total	S. courtyard	Alley	S. exterior
Samples (n)	23	6	18	3
Sample volume (kl)	0.152	0.034	0.159	0.016
Seed counts				
Orchard seeds	0	0	314	0
Cereals grains	1	0	24	0
Wild and weedy seeds	13	1	47	1
Total seeds	14	1	385	1
Seed density (#/kl)	92	29	2421	63
Charcoal (g)	151.80	2.12	19.50	0.55
Charcoal density (g/kl)	998.68	61.78	122.8	34.38
Seed to charcoal	0.09	0.47	19.74	1.82

Table 3 Bone counts (NISP) and percentages comparing Politiko-Troullia (P-T) East and West: number (%).

Taxon	P-T East		P-T West				
	Interior	Exterior	W. rooms	N. courtyard	S. courtyard	Alley	S. exterior
<i>Ovis/Capra</i>	15 (71)	74 (68)	32 (73)	11 (92)	694 (64)	1422 (67)	374 (74)
<i>Dama</i>	0	0	7 (16)	1 (8)	255 (24)	440 (21)	72 (14)
<i>Sus</i>	3 (14)	21 (19)	0	0	38 (4)	81 (4)	14 (3)
<i>Bos</i>	3 (14)	8 (7)	5 (11)	0	87 (8)	165 (8)	41 (8)
<i>Equus</i>	0	5 (5)	0	0	1 (0.09)	0	1 (0.2)
Carnivore	0	1 (0.9)	0	0	7 (0.6)	13 (0.6)	4 (0.8)
Total	21	109	44	12	1082	2121	506



Figure 9 Carved limestone mold excavated in three pieces from Politiko-Troullia East and used for casting (l-r) a dagger, a chisel, and an axe head.

contrast between the animal assemblages of Politiko-Troullia West and East. Bone deposition in Politiko-Troullia East suggests herding of domesticated farm animals: sheep/goat, pig (*Sus scrofa*), and cattle (*Bos taurus*). Equids perhaps provided traction for plowing. In contrast, animal exploitation in Politiko-Troullia West reflects domestic herding, combined with significant hunting of forest species. The eastern and western portions of the settlement may be distinguished most fundamentally by the abundance of deer and low frequencies of pig in Politiko-Troullia West versus more substantial evidence of swine and absence of deer in Politiko-Troullia East.

As with the floral remains, animal bones are strikingly profuse in the Politiko-Troullia West alley. In a manner unparalleled in the floral data, however, faunal evidence is similarly abundant in the southern courtyard. The abundance of bones in these two sectors incorporates expectedly high frequencies of sheep and goat, and the highest frequencies of deer found anywhere at Politiko-Troullia. In contrast, the northern courtyard and western rooms have only light bone deposition, primarily remains of sheep/goat with little pig, cattle, or deer. Thus, although they define comparably sized adjoining spaces, the bone evidence from the southern and northern courtyards reflects fundamentally different patterns of deposition and behavior in the northern courtyard and western rooms compared to the alley and southern courtyard.

Evidence for metallurgy

Metal and metallurgical remains reveal distinct patterns of manufacture and discard across the settlement. Most notably, the exterior space on the eastern side of Politiko-Troullia East produced a carved limestone mold broken into three pieces (FIG. 9), a pair of copper tongs (possibly used for handling charcoal, crucibles, or heated metal) (Fall *et al.* 2008: fig. 14), fragments of hammered sheets of

copper, several tap slags (the byproduct “tapped” out of a furnace when ore is smelted to extract a metal) (Bachman 1982; Muhly 1989), two fragments of coarse ware ceramic crucibles, and a closely associated pit that may mark the remains of a rudimentary furnace. The crucible sherds were partially vitrified and retained traces of adhered metal residue (Fall *et al.* 2008). Politiko-Troullia West likewise revealed a substantial copper assemblage, but with a very different set of elements and spatial distribution. Here copper slags are accompanied by unprocessed ore and finished copper implements. The alley, in particular, produced an array of ores, slags, pins and needles, and the hilt of a broken dagger blade (Falconer *et al.* 2012: fig. 20), reflecting an intriguing mix of manufacturing and domestic debris. Metallurgical evidence to the south of the alley primarily features chunks of raw ore. Thus, Politiko-Troullia West suggests a clear segregation of copper production (or mineral acquisition) at its south end, refuse disposal in the alley, and light deposition in the courtyard.

Ground stone

The ground stone assemblage from Politiko-Troullia reflects a wide range of food and raw material processing activities. The implements are classified into an array of functional categories applied commonly to other Bronze Age assemblages from Cyprus (see Swiny *et al.* 2003: 221–254; Webb 2000; Frankel and Webb 2006a: 197–207). While ground stone tools often are expedient and multi-functional (Rowan and Ebeling 2008), the majority fall into one of three categories related to modes of use and deposition. “Handstones” are used to “alter a contact surface or intermediate substance” (Adams 2002: 89–90), and are sufficiently small to be handheld and readily moved or discarded. In contrast, “non-portable tools” also termed “netherstones” (Adams 2002: fig. 4.6) provide stationary platforms on which a substance is altered, and are sufficiently large to preclude easy relocation or discard. Weights are relatively small and perforated and are suspended during use. Segregation of these general tool categories and calculation of a simple ground stone portability ratio (number of handstones to number of non-portable tools, omitting weights) permit inference of potential work spaces characterized by larger immovable stone platforms in contrast to assemblages dominated by smaller, more disposable handheld tools. Although larger, potentially obstructive ground stone objects may have been removed from confined spaces (LaMotta and Schiffer 1999), a wide variety of excavations interpret large ground stone as abandoned de facto refuse most indicative of activity area behaviors (Brooks 1993; Byrd 1994; Webb 2000;

Wright 2000; Frankel and Webb 2006a: 201; Kadowaki 2008).

In general, the ground stone evidence from Politiko-Troullia East includes many non-portable querns and mortars, and correspondingly, lower handstone to non-portable ground stone ratios than those for Politiko-Troullia West (TABLE 4). The Politiko-Troullia East exterior workspace again provided an assemblage indicative of industrial activity, with sizable samples of handstones and especially non-portable implements linked with the metallurgical evidence noted above. The Politiko-Troullia East interior assemblage combined a high frequency of non-portable artifacts with few handstones to generate the lowest portability ratio for any architectural setting. Politiko-Troullia West produced a variety of ground stone patterns ranging from modest assemblages with low portability ratios in the courtyards to the substantial alley assemblage (the site's largest) with its abundance of discarded manual tools. The relative frequencies of handstones and non-portable artifacts are similar for the other settings of Politiko-Troullia West, producing a set of portability ratios intermediate between the high values of the alley and the low ratios for Politiko-Troullia East.

Personal artifacts

Spatial patterns of small tools, ornaments, figurines, and gaming stones reflect varying social behaviors and refuse disposal across the community. Some artifact classes, such as gaming stones, animal figurines, and

modified sherds (i.e., those with perforations or smoothed edges indicative of tool use) are distributed fairly evenly across several architectural settings (TABLE 5). On Cyprus, Bronze Age gaming stones appear in two forms, both commonly thought to have originated in Egypt (Swiny 1980, 1986). These gaming stones utilize a linear matrix of small pecked depressions (most often a 3 × 10 pattern) known in Egyptian texts as *senet* ("passing") (Piccione 1990a) or, more unusually, a less standardized spiral pattern referred to in Egypt as *mehen* ("the coiled one," the game of the coiled serpent) (Swiny 1980: 69; Piccione 1990b). Gaming stones are distributed in appreciable numbers across Politiko-Troullia East, both interior and exterior, the debris-filled Politiko-Troullia West alley and its adjoining southern exterior and southern courtyard. Only the Politiko-Troullia West northern courtyard and western rooms virtually lack gaming stones.

In contrast, more formally manufactured awls, needles and pins, and shell and stone beads are concentrated particularly in the Politiko-Troullia West alley deposits. These smaller, easily lost or discarded items include fragments of picrolite, a form of green steatite prized for its workability and ornamental value. The only source for this mineral is found on Mt. Olympus, the island's highest peak (1951 masl), from which water worn picrolite pebbles are carried to the lower reaches of the Kouris and Karyotis river beds in southwestern Cyprus (Xenophontos 1991). This restricted source area and

Table 4 Distribution of ground stone at Politiko-Troullia (P-T) East and West: number (%).

	P-T East				P-T West		
	Interior	Exterior	W. rooms	N. courtyard	S. courtyard	Alley	S. exterior
Handstones	21 (51)	69 (81)	25 (89)	52 (88)	25 (58.1)	193 (88.5)	60 (89.6)
Non-portable	11 (27)	11 (13)	2 (7)	5 (8)	4 (9.3)	11 (5)	4 (6)
Weights	2 (5)	0	0	0	7 (16.3)	1 (0.5)	0
Other	7 (17)	5 (6)	1 (4)	2 (3)	7 (16.3)	13 (6)	3 (4.5)
Total pieces	41	85	28	59	43	218	67
Handstone to non-portable Ratio	1.91	6.27	12.5	10.4	6.25	17.55	15.0

Table 5 Distribution of objects at Politiko-Troullia (P-T) East and West.

	P-T East				P-T West		
	Interior	Exterior	W. rooms	N. courtyard	S. courtyard	Alley	S. exterior
Gaming stones	3	10	0	1	4	8	3
Plank figurines	0	1	0	0	19	9	7
Animal figurines	1	3	1	1	9	5	0
Modified sherds	1	5	0	1	5	2	2
Spindle whorls	2	1	0	1	20	6	5
Bone tools*	0	0	0	0	2	12	1
Copper tools+	1	1	0	0	3	11	0
Beads	0	0	1	0	1	11	4
Picrolite	0	0	1	1	1	6	0
Decorated plaster	0	0	0	4	0	0	0

*3 bone awls, 11 bone needles, 1 bone pin.

+ 2 copper needles, 13 copper pins, 1 dagger hilt.



Figure 10 Ceramic spindle whorls excavated from Politiko-Troullia West, made primarily of Red Polished or Black Polished Ware. Note intricate incised (often white-filled) or punctate decoration on most whorls.

its distance from most Bronze Age settlements, including Politiko-Troullia, underscore the value apparently ascribed to picrolite ornamentation (Vagnetti 1991; Bolger 2003: 156). Recovery of picrolite from distant sites on Cyprus suggests exchange networks across the island and the development of social and economic inequalities within and between prehistoric communities (Peltenburg 1991). Some beads and metal ornaments may have been manufactured locally, as suggested by an anvil for drilling beads from Area L and the metallurgical evidence from Politiko-Troullia East. Contrary to the deposition of many forms of evidence in the Politiko-Troullia West alley, two emblematic artifact classes are found most abundantly in the southern courtyard. This setting, the settlement's largest architecturally defined space, produced a relatively sparse material assemblage, except for notable abundances of incised spindle whorls (FIG. 10), anthropomorphic plank figurines (FIG. 11), and the deer bones noted previously.

Spindle whorls are pierced objects that are positioned on a thin shaft, or spindle, that permits rotation by hand to twist fibers into thread or yarn (Crewe 1998: 5). Although differentiating spindle whorls from other perforated objects (e.g., beads) may not be self-evident (Liu 1978; Swiny 1986: 98–99; Barber 1995; Coleman *et al.* 1996: 207; Frankel and Webb 1996: 191), the whorls from Politiko-Troullia form an artifact class distinguished from weights by their centrally located perforation and from beads by their larger ceramic (rather than stone) constitution and white-filled incised decoration (Crewe 1998: 15). Interestingly, spindle whorls and warp weighted looms both make their initial appearances on Cyprus in the Bronze Age (Crewe 1998: 14, 37), with attendant implications for the development of textile manufacture as an aspect of the island's Secondary Products Revolution.

Characteristic of Early and Middle Cypriot artifact assemblages, plank figurines are distinguished by



Figure 11 Red Polished Ware plank figurine fragment excavated from Politiko-Troullia West with stylized depictions of eyes, nose, and eye brows.

their flat stylized depictions of the human form and are generally crafted from the same ceramic wares used for pottery vessels (e.g., most of the Politiko-Troullia examples are made of Red Polished Ware). The Politiko-Troullia plank figurines tend to be fragmentary and adhere to a standard anthropomorphic form, measuring several centimeters in length with a neck-less rectangular head on a slightly larger rectangular body with minimal or no appendages (a Campo 1994: 100–106). As with plank figurines generally, the more expressive Troullia examples have minimalist facial features and white-filled incised decoration that may indicate dress or ornamentation (a Campo 1994: 61). Two plank figurines merit special mention because of their uniqueness. One plank figurine recovered from the South Courtyard with typically minimized features is noteworthy for its height (38 cm) and carved stone manufacture. Secondly, the lone plank figurine from Politiko-Troullia East, made of White Painted Ware, resembles the “Cradle Board” or “Astarte” figurines of the Late Cypriot Period (Morris 1985: 152, 281–283, fig. 240; Karageorghis 1991) based on her more naturalistic form and full length arms (Fall *et al.* 2008: fig. 21: 1). Since early excavations on Cyprus concentrated on tombs, most plank figurines were found in rich burial assemblages featuring bronze objects, which are commonly attributed to an emerging elite (Begg 1991; Talalay and Cullen 2002; Bolger 2003: 108). Interestingly, the pronounced uniformity of Bronze Age anthropomorphic figurines, in contrast to their greater individuality in the Chalcolithic (Goring 2003), may be one aspect of collective group identity amid the increased social complexity of the Bronze Age (a Campo 1994; Bolger 2003; Talalay and Cullen 2002; Knapp and Meskell 1997).

Discussion

The material evidence from Politiko-Troullia displays several facets of intrasite spatial patterning that provide the foundation for our inferences of rural economic behavior in Bronze Age Cyprus. Activities at both the household and community level reflect the

Secondary Products Revolution on Cyprus (Keswani 2005; Knapp 2008: 80), which was characterized in this locality most notably by arboriculture and metallurgy. Large numbers of seeds, bones, ground stone (especially handstones), and smaller metal remains and personal artifacts comprise the refuse deposited in the Politiko-Troullia West alley. In contrast, the Politiko-Troullia southern and northern courtyards, adjoining western rooms, and the Politiko-Troullia East interior are marked by much more modest deposition, perhaps indicating cleaner conditions in domestic spaces (Tani 1995; Frankel and Webb 2006b; Webb 2009) and underscoring the refuse-laden nature of the alley sediments in particular. More detailed patterning illuminates landscape formation, arboriculture, village industry, and possible community behavior at Politiko-Troullia.

Landscape formation

Until recently, botanical remains generally were rarely recovered from excavations on Cyprus (Hansen 2003: 450), a result often attributed to poor botanical preservation in shallow, permeable sediments. Broadened analytical methods (e.g., Valamoti and Charles 2005; Fuller *et al.* 2010; Ryan 2011) and intensified botanical recovery at recent Neolithic and Chalcolithic excavations on Cyprus have produced much more abundant plant macrofossil assemblages (Murray 1998; Willcox 2003; Colledge and Conolly 2007; Zeder 2008; Lucas *et al.* 2011), but interpretation of the modest Bronze Age seed assemblages from Cypriot sites tends to depend on assessments of species presence/absence (e.g., Adams and Simmons 1996: tables 9.12–9.15). Flotation of more than 350 liters of sediment from Politiko-Troullia has produced modest seed densities and charcoal remains (Miller 1991; Fall *et al.* 2002; Klinge and Fall 2010) that support an interpretation of the consumption of multiple fuel sources as a fundamental aspect of Bronze Age rural ecology and economy.

Seed to charcoal ratios reflect varying combinations of fuel wood and dung fuel consumption in antiquity (Miller 1988). Ancient societies had a demonstrated ability to harvest fuel wood to the point of exhaustion (e.g., Rollefson and Kohler-Rollefson 1992; Nesbitt 1995), after which many agrarian populations shifted to dung fuel (Rhode *et al.* 2007; Sillar 2000). While seed carbonization may result from human consumption, ethnographic studies suggest it primarily indicates burning of dung fuel in the Mediterranean world (Hillman 1984; Miller 1985, 1990). As cases in point, high seed to charcoal ratios (ranging from 110 to 1700 seeds/g charcoal) for Bronze Age settlements in Jordan and Syria reflect decimation of local woodlands and reliance on dung fuel (Miller 1997; Moore *et al.*

2000; Schwartz *et al.* 2000; Fall *et al.* 2004; Klinge and Fall 2010). In stark contrast, much lower seed densities and higher rates of charcoal recovery from Politiko-Troullia suggest considerable fuel wood consumption and the persistence of local woodlands.

The importance of forest resources is supported by faunal evidence from Chalcolithic and Early and Middle Cypriot sites in Cyprus (Coleman *et al.* 1996; Croft 1996, 1998; Swiny *et al.* 2003; Steel 2004a: table 5.3), suggesting mixed hunting and herding similar to that practiced at Politiko-Troullia. Hunted species like the Mesopotamian fallow deer and wild goat and boar were first brought to Cyprus early in the Neolithic (Davis 1987; Groves 1989; Croft 2002, 2010; Vigne *et al.* 2009, 2011). The mix of wild and domesticated goat (and perhaps other hunted species) was diverse up to the Middle Cypriot Period, as wild populations were introduced repeatedly and some domesticates became feral after separating from their flocks (Schwartz 1973). Thus, the hunting and herding at Politiko-Troullia are symptomatic of a decidedly mixed pre-urban subsistence regime in the midst of inland forested hill country that shifted to the dedicated management of domesticated herds with the rise of Late Cypriot coastal towns (Steel 2004a: 158).

Arboriculture and orchard products

Within the woodland setting in the Troodos foothills, the inhabitants of Politiko-Troullia practiced arboriculture, as indicated by the relative abundance of seeds from orchard species, especially in the alley refuse of Politiko-Troullia West. Archaeological pollen evidence from Cyprus before the Bronze Age suggests only localized expansion of village fields into surrounding woodlands (Renault-Miskovsky 1985, 1989; Held 1993). Later, at Politiko-Troullia, this endeavor likely involved orchards on adjacent hillsides (e.g., the terraced slopes of Politiko-Koloikremmos) (Fall *et al.* 2012), for the production of olive oil, wine, and dried fruits (e.g., figs). Interestingly, cereal grains are very infrequent and pulses are absent altogether from the Politiko-Troullia seed assemblage, raising the possibility that meat was a crucial protein source in the local diet. This possibility accords well with the substantial evidence for deer hunting, in addition to sheep/goat herding by the village inhabitants.

The importance of orchard products in the Late Bronze Age urbanization of Cyprus is amply demonstrated by an olive oil manufacturing center at Kalavastos-Ayios Dhimitrios, where a large Late Cypriot II central courtyard-style complex with scores of *pithoi* (storejars) were used to store up to 50,000 liters of olive oil (South 1992). Large-scale oil production is well attested in the Late Cypriot period

by large pithoi at Alassa-Paleotaverna (Hadjisavvas 2003, 2009a, 2009b) and by pressing floors at Maroni-Vournes (Cadogen 1984, 1986), Episkopi-Bamboula (Weinberg 1983), Enkomi (Courtois *et al.* 1986), and Hala Sultan Teke (Åström 1985). However, Hadjisavvas (1992, 2003) and Warnock (2007) have shown that oil production is often found in households involving the simple crushing of olives with a mortar and pestle or in a shallow rectangular ground stone trough. Accordingly, Hadjisavvas notes that the most common archaeological evidence for oil production comes in the form of modestly sized crushing troughs (Warnock 2007: figs. 4.10, 4.11), which are found in household contexts at the settlements above and at Mrytou-Pighades (Taylor 1957), Kition (Karageorghis 1987), and Alassa-Pano Mandilaris (Hadjisavvas 1988, 1989). The ground stone assemblage at Politiko-Troullia features the remains of 16 comparable shallow troughs, of which 11 were recovered from the Politiko-Troullia, alley and the adjoining southern exterior. Trough fragments are nearly absent from Politiko-Troullia East, are sparse in the courtyard settings of Politiko-Troullia West, and follow a spatial pattern consistent with the discard of other forms of household refuse, including handstones (and accompanying high ground stone ratios). The combination of ground stone troughs, olive remains, and local terracing supports the inference of household-scale olive oil production at Politiko-Troullia, exemplifying a household-based facet of the pre-urban Early and Middle Cypriot Secondary Products economy prior to the centralized oil manufacture in Late Cypriot towns.

Metallurgy

The evidence for copper production at Politiko-Troullia provides a pre-urban window on what would become the signature industry of Late Cypriot towns. While finished metal artifacts are scattered with domestic debris in the Politiko-Troullia West alley and courtyard, the clearest direct indicators of metal production (tongs, crucibles, a mold, and slag) are concentrated in the exterior workspace of Politiko-Troullia East. This same setting provides a particularly high charcoal density and low ratio of seeds to charcoal, in keeping with use of wood charcoal as a preferred fuel for producing the temperatures necessary for copper smelting and casting (Forbes 1971; Bamberger and Wincierzt 1990). The charcoal from Politiko-Troullia identified thus far through scanning electron microscopy comes from *Pinus cf. brutia*. Low handstone to non-portable ground stone ratios at Politiko-Troullia East result from relatively large numbers of non-portable grinding or pounding surfaces, and may reflect ore processing in both exterior and interior settings. The absence of hunted

animal bones further sets off the compound of Politiko-Troullia East, its behaviors and depositional patterns, from those of Politiko-Troullia West.

Politiko-Troullia's smiths enjoyed an abundance of rich local ores, which were smelted expediently using relatively simple pyrotechnology, as reflected by many pieces of slag that still retain large amounts of unextracted copper (see Bachman 1980; Muhly *et al.* 1982; Weinstein Balthazar 1990; Muhly 1991; Rehder 1994, 2000; Wells 1996; Knapp *et al.* 1999; Kassianidou 2004, 2008). The carved limestone mold from Politiko-Troullia East combines multiple utilitarian tool forms (axe head, dagger, and chisel) that are typical of small-scale local metal production (Muhly 1986; Frankel and Webb 2006a: 215–217, fig. 6.7), for which copper and bronze are superior to chipped stone. The quotidian nature of copper tool use at Politiko-Troullia is reflected in an animal bone assemblage marked by narrow infrequent cut marks, which is characteristic of butchering with metal knives (O'Connor 2000: 45–47) in contrast to the more pronounced scarring left by chipped stone tool use (Fisher 1995). Specialized copper extraction and production became integral parts of Late Cypriot urbanization and the exchange of metals and ceramics across the eastern Mediterranean (Knapp 2008: 159–172). Apliki-Karamallos clearly exemplifies a dedicated Late Cypriot miner's village with nearby mine shafts (owned not coincidentally by the Cyprus Mines Corporation at the time of its excavation) (Taylor 1952; Kling and Muhly 2007; Knapp 2008: 136, 141). At the other end of the production sequence, Enkomi epitomizes the centralized copper manufacture of many Late Cypriot urban centers (Dikaios 1969, 1971). The high volume of Late Cypriot metallurgy involved furnace smelting, utilizing bellows to force oxygen through ceramic tuyeres (nozzles) (Kassianidou 2008), as attested by the remarkable abundance of tuyere fragments at both Apliki and Enkomi (Muhly 1989: 304–305). Interestingly, tuyere fragments are absent at Politiko-Troullia, providing further indirect evidence of the household or small workshop orientation of its metallurgy.

Recent studies reveal significant involvement of Early and Middle Cypriot communities in the eastern Mediterranean metals trade (Philip *et al.* 2003; Kassianidou and Knapp 2005; Sahoglu 2005; Webb *et al.* 2006), but the organization of this metallurgy remains elusive (see Muhly 1989). Politiko-Phorades, a few kilometers west of Politiko-Troullia, has an abundance of copper slag, indicating intensive smelting in Middle Cypriot III/Late Cypriot I, but little evidence of casting (Knapp *et al.* 1999; Knapp and Kassianidou 2008). While Early and Middle Cypriot communities like Alambra-Mouttes and Marki-Alonia lie close to

copper ore deposits, they too provide only modest evidence of casting (Gale *et al.* 1996: 360–362, 392; Frankel and Webb 2006a: 216–217). Politiko-Troullia, with its evidence for ore extraction, smelting and implement casting and consumption suggests spatially segregated, pre-urban village metallurgy by small workshops. Elsewhere around the Mediterranean, specialist production of prestige goods figured prominently in pre-urban contexts, such as the Levantine Chalcolithic (Bachman 1980). Politiko-Troullia illuminates small-scale utilitarian metallurgy not long before the advent of the first towns on Cyprus, thereby suggesting a different metallurgical profile than that seen in pre-urban societies in Europe and the Mediterranean (Wells 1996; Earle 2002), which often featured emulation of ritual objects by social elites. This phenomenon and its social connotations are manifested on Cyprus by particularly elaborate ceramics associated with Bronze Age mortuary ritual (Webb and Frankel 2010).

Community behavior

While high frequencies of seeds, animal bones, handstones, and small personal artifacts (e.g., beads and bone and copper tools) in the Politiko-Troullia West alley seem to reflect deposition of domestic trash, the intrasite patterns of several other forms of evidence carry different behavioral connotations. Some artifacts clearly indicate non-subsistence behavior, like gaming stones and ceramic animal figurines, and are distributed across a variety of architectural settings. Two board games carried religious connotations in Egypt: mehen during the Old Kingdom, and senet continuing through the New Kingdom (Piccione 1990a, 1990b). The movement of markers along the serpentine game board of mehen, for example, recapitulated the spiraling approach of the dead toward *Ra*, who was encircled protectively in the underworld by the immense snake, Mehen (Piccione 1990b). While gaming stones became common funerary equipment in Egypt, often covered with symbolic decoration, Bronze Age parallels in both forms around the eastern Mediterranean, especially in the Levant and on Cyprus (Swiny 1980, 1986), lack any clear ritual connotation. The first gaming stones reported from the Politiko-Troullia locality (Buchholz 1982), as well as those excavated from other Cypriot Bronze Age settlements (Swiny 1986), are undecorated, and appear to have been created, used, and discarded expediently. Both broken and intact examples were adapted as building stones in Politiko-Troullia's walls, paralleling other architectural reuse of ground stone (e.g., Camilli *et al.* 1988). In some cases, game boards may be pecked in varying combinations on both sides of a stone slab, and in one instance at Politiko-Troullia, a senet game

was prepared on the underside of a moderately sized mortar. Most archaeological discussions suggest that both games involved two players, although Egyptian depictions of mehen include six sets of colored marbles and six feline markers (Piccione 1990a). There is little documentary evidence concerning the larger social context of mehen or senet gaming, and whatever the number of players, the archaeological signature of this gaming at Politiko-Troullia appears to be subtle. The gaming stones are excessively large to be considered handstones, but their secondary use as wall stones reveals them to be definitely movable and therefore not clear archaeological indicators of social activity areas. Thus, the expedient adaptation of limestone slabs for gaming stones, as well as their dispersed deposition, make these artifacts indistinct indicators of repeated social interaction.

There are suggestions of group behaviors in larger architectural settings at Politiko-Troullia, however. The two courtyards of Politiko-Troullia West both have household refuse, but they differ in other respects. The northern courtyard provides all four examples of molded plaster facing from the site, indicating a relatively large, apparently external space bounded by walls decorated in this unusual manner. In a seemingly similar external space, the southern courtyard, a very different set of depositional patterns suggests group or possibly communal behaviors. First, this courtyard (and its adjoining alley and southern exterior) features the largest quantities of ceramic spindle whorls and stone weights at this site. In addition to spindle whorls, the Cypriot Bronze Age marked the appearance of the warp weighted loom, leading to the proposition that spaces where looms could be set up often became focal points of concentrated community activities (Crewe 1998: 37–38). Although the evidence from Politiko-Troullia's southern courtyard suggests weaving most clearly, that space may have witnessed other group endeavors as well.

While ceramic animal figurines are spread widely across the village, anthropomorphic plank figurines (almost all of Red Polished Ware) are concentrated in the southern courtyard and its adjoining alley and southern exterior. Although plank figurines commonly have been assumed to depict women, perhaps due to the more clearly female form of Astarte figurines (a Campo 1994; Bolger 2003), these small flat tokens may be symbols of group identity. Indeed, many studies return to the importance of communal organization within Early and Middle Cypriot towns and villages (Bolger 1996; Frankel 1997). Accordingly, mortuary paraphernalia from Cyprus, including plank figurines from tombs, are often interpreted as such (e.g., Manning 1993; Talalay

and Cullen 2002). At Politiko-Troullia, these miniatures were seemingly carried or displayed, and subsequently discarded in the public space of the southern courtyard. The co-occurrence of these small fragmentary figurines with a much larger stone plank figure (an association unparalleled elsewhere on Cyprus) adds another facet to the interpretation of Politiko-Troullia's southern courtyard as a focal point of communal behavior.

The clearest evidence of Bronze Age wild game hunting on Cyprus features the Mesopotamian fallow deer, which persisted from its intentional Neolithic introduction (Croft 1991) to its last historical reference in the 16th century A.D. (Flourentzos 2002). During much of prehistory and history deer hunting was "conducted in a controlled, sustainable way within a system of management" in which young males were culled in the same manner as domestic sheep (Croft 2002: 175). Whereas the deposition of sheep/goat, cattle, and pig bones shows relatively little spatial variation across Politiko-Troullia, the southern courtyard incorporates a strikingly large assemblage of animal bones (exceeded only by the abundance in the alley assemblage), including, in conjunction with the alley, the greatest abundance of Mesopotamian fallow deer bones.

This distinct spatial concentration of a specific food source suggests abundant consumption and disposal during feasting (Crabtree 1990; Dietler 2001: 89; Steel 2004b). In other ancient communities on Cyprus, conspicuous consumption of large livestock (e.g., cattle) conveyed prestige value and maintained social and economic ties for feast participants (Croft 1991; Keswani 1994; Peltenburg 1998). Similarly, the upper class in Medieval England enjoyed exclusive access to deer hunting in game parks (Grant 1988a, 1988b). In the case of Politiko-Troullia, the Mesopotamian fallow deer provides a comparable and archaeologically well-attested candidate for community feasting. Indeed, this aspect of group behavior at Politiko-Troullia may provide an early taste of the ceremonial feasting and drinking that emerged as an important forum for the increasingly complex social relations of the ensuing Late Bronze Age (Steel 2002; 2004b).

Conclusions

Politiko-Troullia is an illustration of Bronze Age rural economy and village life in the Early and Middle Cypriot periods prior to the urbanization of Cyprus and contributes to an interpretation of pre-urban Cypriot society as being comprised of agrarian communities that were politically autonomous, yet economically linked (though not necessarily interdependent). In this social context, Politiko-Troullia suggests the beginnings of emergent social and

economic differentiation between households and potentially between Cypriot Bronze Age communities. Remains of charcoal and carbonized seeds found in the trash at Politiko-Troullia indicate cultivation of orchard crops including olive, grape, fig, and pistachio, possibly on terraced hill slopes adjoining the village. The ratios of seeds to charcoal, when compared with contemporaneous settlements on the largely deforested Near Eastern mainland, indicate the persistence of woodlands well into the Bronze Age in the Troodos foothills. The villagers managed animal resources through a combination of pronounced sheep/goat herding, less intensive pig husbandry, cattle consumption (and possibly traction), and substantial deer hunting. Thus, the inhabitants of Politiko-Troullia maintained a decided mixture of domesticated and wild animal utilization, similar to contemporaneous communities on Cyprus, and in stark contrast to their mainland contemporaries. Metallurgical industry, a hallmark of the Cypriot Bronze Age, especially in communities around the copper-bearing pillow lavas of the Troodos Mountains, entailed a multi-stage sequence of ore acquisition, smelting, and tool casting. The compound excavated in Politiko-Troullia East features an exterior workspace best interpreted as a metallurgical workshop for the production of utilitarian implements. The practical orientation of metal use is reinforced by the deposition of pins, needles and tool fragments in domestic trash. Interestingly, while some artifacts with obvious social connotations (e.g., gaming stones, which were used and reused expediently) reveal social patterns indistinctly, other lines of evidence suggest group activities in larger more public settings. In particular, the southern courtyard of Politiko-Troullia West has a deposition of spindle whorls, plank figurines, and deer bones that implies group economic endeavors (e.g., spinning, weaving, hunting), but also hints at expressions of community identity (e.g., homogeneous iconography, feasting) in pre-urban Bronze Age society on Cyprus.

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